[0110] It should be noted that any entity disclosed herein (e.g. components, units and devices) are not limited to a dedicated entity as described in some embodiments. Rather, the herein disclosed subject matter may be implemented in various ways and with various granularities on device level while still providing the desired functionality. Further, it should be noted that according to embodiments a separate entity (e.g. a software module, a hardware module or a hybrid module) may be provided for each of the functions disclosed herein. According to other embodiments, an entity (e.g. a software module, a hardware module or a hybrid module (combined software/hardware module)) is configured for providing two or more functions as disclosed herein.

[0111] It should be noted that the term "comprising" does not exclude other elements or steps. It may also be possible in further refinements of the invention to combine features from different embodiments described herein above. It should also be noted that reference signs in the claims should not be construed as limiting the scope of the claims.

LIST OF REFERENCE SIGNS

[0112] **100** Cellular network system
[0113] **101** Base station
[0114] **102** User equipment
[0115] **103** Cell
[0116] **201** 8×8 MIMO for 64QAM
[0117] **202** 8×8 MIMO for 256QAM
[0118] **301** 4×4 MIMO for 256QAM
[0119] **302** 4×4 MIMO for 64QAM
[0120] **303** 2×2 MIMO for 256QAM
[0121] **304** 2×2 MIMO for 64QAM
[0122] **400** Cellular network system
[0123] **401** Transceiver of the base station
[0124] **402** Determination unit of the base station
[0125] **403** Selection unit of the base station
[0126] **404** Control unit of the base station
[0127] **405** Transceiver of the user equipment
[0128] **406** Control unit of the user equipment

1-15. (canceled)

16. A method for controlling a modulation and coding scheme for a transmission between a base station and a user equipment, wherein the modulation and coding scheme is selectable based on a first modulation and coding scheme table comprising entries corresponding to a plurality of modulation and coding schemes with a first maximum modulation order or based on a second modulation and coding scheme table comprising entries corresponding to a plurality of modulation and coding schemes with a second maximum modulation order, the method comprising

selecting, by the base station, the first modulation and coding scheme table or the second modulation and coding scheme table, and

controlling, by the base station, the modulation and coding scheme for the transmission between the base station and the user equipment based on the selected modulation and coding scheme table.

17. The method as set forth in claim **16**, wherein the second maximum modulation order is higher than the first maximum modulation order, in particular wherein the first maximum modulation order corresponds to 64QAM and the second modulation order corresponds to 256QAM.

18. The method as set forth in claim **17**, the method further comprising

determining, by the base station, actual channel conditions of a radio transmission channel being used for the transmission between the base station and the user equipment,

determining, by the base station, a maximum supported modulation order based on the determined actual channel conditions, and

selecting, by the base station, the first modulation and coding scheme table or the second modulation and coding scheme table based on a comparison of the maximum supported modulation order with the first maximum modulation order and the second maximum modulation order.

19. The method as set forth in claim **16**, the method further comprising

transmitting information to the user equipment being indicative for the selected modulation and coding scheme table.

20. The method as set forth in claim **19**, wherein transmitting information to the user equipment is based on radio resource control signalling.

21. The method as set forth in claim **19**, wherein transmitting information to the user equipment is based on implicit signalling.

22. The method as set forth in claim **18**, the method further comprising

receiving a confirmation information from the user equipment being indicative for a performed change of the selected modulation and coding scheme table.

23. The method as set forth in claim **22**, wherein the first modulation and coding scheme table and the second modulation and coding scheme table each comprise a common subset of equal entries being arranged at same positions within the first modulation and coding scheme table and the second modulation and coding scheme table,

in particular wherein the method further comprises,

after transmitting the information to the user equipment being indicative for the selected modulation and coding scheme table and before receiving the confirmation information from the user equipment, controlling the modulation and coding scheme for the transmission between the base station and the user equipment based on the selected modulation and coding scheme table based on the common subset of entries.

24. The method as set forth in claim **16**, wherein controlling an initial transmission between the base station and the user equipment is based on the first modulation and coding scheme table.

25. The method as set forth in claim **16**, wherein the bits of carrying a modulation and coding scheme index are the same for the first modulation and coding scheme table and for the second modulation and coding scheme table.

26. The method as set forth in claim **16**, wherein the actual channel conditions are determined based on a channel quality indicator being selectable based on a first channel quality indicator table supporting the first maximum modulation order or based on a second channel quality indicator table supporting the second maximum modulation order, the method comprising

receiving, by the base station, a channel quality indicator from the user equipment, and

determining, by the base station, the actual channel conditions of the radio transmission channel being used for